

WHAT IS CLAIMED IS:

1. A wire for a display device transmitting a scanning signal or a data signal, the wire comprising:

a metal film including a conductive material; and

a metal oxide film formed on the metal film and including an oxide of a conductive material.

2. The wire of claim 1, wherein the wire includes a gate line or a data line of a liquid crystal display.

3. The wire of claim 1, wherein the metal film comprises one of Cr, Mo, Mo alloy, Al and Al alloy.

4. The wire of claim 1, wherein the metal oxide film comprises one of oxides of Cr, Mo and Mo alloy.

5. The wire of claim 1, wherein the conductive material included in the metal film and the conductive material included in the metal oxide film are substantially the same.

6. A thin film transistor array panel comprising:

a gate wire formed on an insulating substrate and including a gate line and a gate electrode connected to the gate line;

a gate insulating film covering the gate wire;

a semiconductor layer formed on the gate insulating film;

a data wire formed on the gate insulating film or the semiconductor layer and including a data line, a source electrode connected to the data line and located on the semiconductor layer and a drain electrode formed on the semiconductor layer and located opposite the source electrode with respect to the gate electrode;

a passivation layer covering the data wire; and

a pixel electrode including a transparent conductive material or a reflective conductive material and connected to the drain electrode,

wherein the gate wire or the data wire comprises a metal film including a conductive material and a metal oxide film including an oxide of a conductive material.

7. The thin film transistor array panel of claim 6, wherein the metal film comprises one of Cr, Mo, Mo alloy, Al and Al alloy.

8. The thin film transistor array panel of claim 6, wherein the metal oxide film comprises one of oxides of Cr, Mo, Mo alloy, Al and Al alloy.

5 9. The thin film transistor array panel of claim 6, wherein the conductive material included in the metal film and the conductive material included in the metal oxide film are substantially the same.

10 10. The thin film transistor array panel of claim 6, wherein the gate wire further includes a gate pad connected to the gate line, and the data wire further includes a data pad connected to the data line, and

the thin film transistor array panel further comprises:

a subsidiary gate pad including substantially the same layer as the pixel electrode and connected to the gate pad; and

15 a subsidiary data pad including substantially the same layer as the pixel electrode connected to the data pads.

11. The thin film transistor array panel of claim 6, wherein the passivation film comprises SiOC, SiOF, SiNx or an organic insulating material.

20 12. The thin film transistor array panel of claim 6, wherein the semiconductor layer has substantially the same planar shape as the data wire excluding a channel portion between the source electrode and the drain electrode.

13. The thin film transistor array panel of claim 6, wherein the pixel electrode is located on the passivation layer, and the pixel electrode and the drain electrode are connected to each other via a first contact hole provided in the passivation layer.

25 14. A method of manufacturing a wire for a display device, the wire comprising:

depositing a metal film on a substrate;

depositing a metal oxide film on the metal film; and

30 patterning the metal oxide film and the metal film under substantially the same etching condition to form a tapered structure.

15. The method of claim 14, wherein the metal film comprises Cr and the metal oxide film comprises CrOx.

16. The method of claim 15, wherein the etching condition includes wet etching using an etchant including 8-12% $\text{Ce}(\text{NH}_4)_2(\text{NO}_3)_6$, 10-20% NH_3 and remaining ultra pure water.

17. A method of manufacturing a thin film transistor array panel, comprising:

forming a gate wire on an insulating substrate, the gate wire including a gate line and a gate electrode connected to the gate line;

forming a gate insulating film covering the gate wire;

forming a semiconductor layer including amorphous silicon;

forming an ohmic contact layer including doped amorphous silicon on the semiconductor layer;

forming a data wire on the gate insulating film or the semiconductor layer, the data wire including a data line, a source electrode near the gate electrode, and a drain electrode located opposite the source electrode with respect to the gate electrode;

forming a passivation layer covering the semiconductor layer; and

forming a pixel electrode electrically connected to the drain electrode,

wherein the formation of the gate wire or the formation of the data wire comprises:

depositing a metal film;

depositing a metal oxide film; and

etching the metal oxide film and the metal film under substantially the same etching condition to make the gate wire or the data wire to have a tapered structure.

18. The method of claim 17, wherein the metal film comprises Cr and the metal oxide film comprises CrOx.

19. The method of claim 15, wherein the etching condition includes wet etching using an etchant including 8-12% $\text{Ce}(\text{NH}_4)_2(\text{NO}_3)_6$, 10-20% NH_3 and remaining ultra pure water.